IN THE UNITED STATES
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Attorney Docket No.: **OOCL-73 (US-P1535)**

Applicant: **Masaaki SHIBUYA**

Serial No.: **10/054,667**

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Title: **PRINTER**

Examiner: **Not yet assigned**

Group Art Unit: **Not yet assigned**

ASSISTANT COMMISSIONER FOR PATENTS
Washington, D.C. 20231

S I R:

PRELIMINARY AMENDMENT

Before examining the above referenced application, please amend the application as follows:

IN THE SPECIFICATION:

Please amend the specification as follows:

Replace the paragraph starting at page 29, line 18 with:

First and second memory card slots 2h and 2i are formed to match with sockets (not shown) formed inside the main unit. Two different types of first and second memory cards 9a and 9b on which an image information signal (that may include print control information), according to which

an image is printed, are inserted through the first and second memory card slots 2h and 2i. The first and second memory cards 9a and 9b can be freely detached and attached to the associated sockets. The first memory card 9a is, for example, a smart medium (SM), while the second memory card 9b is, for example, a compact flash (CF). In the present embodiment, the types of memory cards and the number thereof are not limited to the foregoing ones. Needless to say, other types of memory cards may be used in combination.

Replace the paragraph starting at page 30, line 7 with:

As mentioned above, the first memory card 9a or second memory card 9b is inserted in the sockets (not shown) formed to match with the first and second memory card slots 2h and 2i. Thus, an image information signal or print control information that is needed to print an image is acquired from either of the memory cards 9.

Replace the paragraph starting at page 32, line 23 with:

A circuit board 22 is, as shown in Fig. 2, located on the bottom of the printer 1, and composed of a control circuit board 22a, a power circuit board 22b, and a medium socket unit circuit board 22c. The control circuit board 22a mounts at least one of circuits in a group required for printing, for example, an IC (not shown) for controlling print paper feed and an IC (not shown) for controlling ink ribbon feed. The power circuit board 22b is fixed to the control circuit board 22a so that it will stand along one side of the printer 1, and includes a

charging circuit capable of charging the battery 8. The medium socket unit circuit board 22c has sockets 82a and 82b (see Fig. 3), in which the first and second memory cards 9a and 9b are fitted, fixed thereto.

Replace the paragraph starting at page 35, line 3 with:

On the other hand, the medium socket unit circuit board 22c has, as shown in Fig. 2, a first memory card socket 82a and a second memory card socket 82b fixed to the inner side thereof using a fixing member 61. The fixing member 61 is fixed to the power circuit board 22b. The sockets 82a and 82b are fixed by tightening screws 64 that are inserted into the proximal part of the fixing member 61 through the medium socket unit circuit board 22c.

Replace the paragraph starting at page 45, line 22 with:

The temperature measuring unit 20a for measuring the temperature of the thermal head 20 is located near the thermal head 20. The temperature measuring unit 20a measures the temperature of the thermal head 20, or more particularly, the temperature of a heating element included in the thermal head 20, and transmits the result of the measurement to the CPU 81.

Replace the paragraph starting at page 52, line 11 with:

The CPU 81 passes control to step S3. At step S3, it is judged from a voltage detected by performing battery checking at step S2 (voltage detected during the period from the time instant T1 to the time instant T2 in

Fig. 5) whether printing of at least one sheet of paper can be achieved. If it is judged that printing of at least one sheet of paper cannot be achieved because of an insufficient battery capacity (that is, the remaining battery capacity of the battery 8 is equal to or smaller than a voltage required for the printing (for example, 6.6 V)), the CPU 81 controls the liquid crystal device controller 84 at step 4 so that an indication of the fact that printing is impossible to do will be displayed on the display 2e. At step S5, the CPU 81 controls the battery controller 88 so that the feeding of power will be discontinued in order to suspend execution of printing. In other words, when the CPU 81 performs this action, the printer 1 enters a wait state to await until the battery is charged or ac power is fed via the dc connector 10.

Replace the paragraph starting at page 53, line 5 with:

In contrast, it may be judged at step S3 that a voltage detected by performing battery checking (voltage detected during the period from the time instant T1 to the time instant T2 in Fig. 5) is equal to or higher than a voltage (for example, 6.6 V) that permits printing of at least one sheet of paper. In this case, the CPU 81 controls the liquid crystal device controller 84 at step 6 so that an indication of the fact that the voltage developed from the battery 8 permits execution of printing will be displayed on the display 2e.

Replace the paragraph starting at page 59, line 6 with:

According to the present embodiment, if the CPU 81 judges that a voltage detected at step S11 falls below the minimum operating voltage of 6.9 V and judges from the result of measurement performed by the temperature measuring unit 20a that the temperature of the thermal head 20 is high, the CPU 81 controls the voltage correction unit 81c so that an excess-correction will be performed to such an extent that 100 % will not be exceeded. (Herein, the excess-correction is a correction that provides a relationship of the minimum operating voltage expressed as an extension, which is not shown, of the characteristic curve shown in Fig. 7.) Thus, an arithmetic operation may be performed in order to work out a correction coefficient. In this case, the correction coefficient is provided as a virtual density to be set so that the product of the virtual density by a density provided as a correction coefficient determined with the result of measurement performed by the temperature measuring unit 20a will not exceed the maximum density of 100 %. Herein, when the detected voltage value is smaller than the minimum operating voltage value of 6.9 V, the correction coefficient assumes a value larger than the maximum density.

In accordance with 37 C.F.R. § 1.121(b)(2)(iii) a separate sheet(s) with the replacement paragraphs, marked up to show all changes relative to the previous version of the paragraphs, is filed herewith.

REMARKS

The amendments to the English-language translation of the application correct minor errors.

SEPARATE SHEETS WITH MARKED-UP VERSION OF CHANGES TO THE SPECIFICATION IN ACCORDANCE WITH 37 CFR § 1.121(b)(2)(iii)

The paragraph starting at page 29, line 18 has been amended as follows:

First and second memory card slots 2h and 2i are formed to match with sockets (not shown) formed inside the main unit. Two different types of first and second memory cards 9a and 9b on which an image information signal (that may include print control information), according to which an image is printed, are inserted through the first and second memory card slots 2h and 2i. The first and second memory cards [2h and 2i] 9a and 9b can be freely detached and attached to the associated sockets. The first memory card 9a is, for example, a smart medium (SM), while the second memory card 9b is, for example, a compact flash (CF). In the present embodiment, the types of memory cards and the number thereof are not limited to the foregoing ones. Needless to say, other types of memory cards may be used in combination.

The paragraph starting at page 30, line 7 has been amended as follows:

As mentioned above, the first memory card 9a or second memory card 9b is inserted in the [slots] sockets (not shown) formed to match with the first and second memory card slots 2h and 2i. Thus, an image information signal or print control information that is needed to print an image is acquired from either of the memory cards 9.

The paragraph starting at page 32, line 23 has been amended as follows:

A circuit board 22 is, as shown in Fig. 2, located on the bottom of the printer 1, and composed of a control circuit board 22a, a power circuit board 22b, and a medium socket unit circuit board 22c. The control circuit board 22a mounts at least one of circuits in a group required for printing, for example, an IC (not shown) for controlling print paper feed and an IC (not shown) for controlling ink ribbon feed. The power circuit board 22b is fixed to the control circuit board 22a so that it will stand along one side of the printer 1, and includes a charging circuit capable of charging the battery 8. The medium socket unit circuit board 22c has sockets 82a and 82b (see Fig. 3), in which the first and second memory cards [2h and 2i] 9a and 9b are fitted, fixed thereto.

The paragraph starting at page 35, line 3 has been amended as follows:

On the other hand, the medium socket unit circuit board 22c has, as shown in Fig. 2, a first memory card socket 82a and a second memory card socket 82b fixed to the inner side thereof using a fixing member 61. The fixing member 61 is fixed to the power circuit board 22b. The sockets 82a and 82b are fixed by tightening screws 64 that are inserted into the proximal part of the fixing member 61 through the medium socket unit circuit board 22c.

The paragraph starting at page 45, line 22 has been amended as follows:

The temperature [setting] measuring unit 20a for measuring the temperature of the thermal head 20 is located near the thermal head 20. The temperature measuring unit 20a measures the temperature of the thermal head 20, or more particularly, the temperature of a heating element included in the thermal head 20, and transmits the result of the measurement to the CPU 81.

The paragraph starting at page 52, line 11 has been amended as follows:

The CPU 81 passes control to step S3. At step S3, it is judged from a voltage detected by performing battery checking at step S2 (voltage detected during the period from the time instant T1 to the time instant T2 in Fig. [6] 5) whether printing of at least one sheet of paper can be achieved. If it is judged that printing of at least one sheet of paper cannot be achieved because of an insufficient battery capacity (that is, the remaining battery capacity of the battery 8 is equal to or smaller than a voltage required for the printing (for example, 6.6 V)), the CPU 81 controls the liquid crystal device controller 84 at step 4 so that an indication of the fact that printing is impossible to do will be displayed on the display 2e. At step S5, the CPU 81 controls the battery controller 88 so that the feeding of power will be discontinued in order to suspend execution of printing. In other words, when the CPU 81 performs this action, the

printer 1 enters a wait state to await until the battery is charged or ac power is fed via the dc connector 10.

The paragraph starting at page 53, line 5 has been amended as follows:

In contrast, it may be judged at step S3 that a voltage detected by performing battery checking (voltage detected during the period from the time instant T1 to the time instant T2 in Fig. [6] 5) is equal to or higher than a voltage (for example, 6.6 V) that permits printing of at least one sheet of paper. In this case, the CPU 81 controls the liquid crystal device controller 84 at step 6 so that an indication of the fact that the voltage developed from the battery 8 permits execution of printing will be displayed on the display 2e.

The paragraph starting at page 59, line 6 has been amended as follows:

According to the present embodiment, if the CPU 81 judges that a voltage detected at step S11 falls below the minimum operating voltage of 6.9 V and judges from the result of measurement performed by the temperature measuring unit 20a that the temperature of the thermal head 20 is high, the CPU 81 controls the voltage correction unit 81c so that an excess-correction will be performed to such an extent that 100 % will not be exceeded. (Herein, the excess-correction is a correction that provides a relationship of the minimum operating voltage expressed as an extension, which is not shown, of the characteristic curve shown in Fig. 7.) Thus, an arithmetic operation may

be performed in order to work out a correction coefficient. In this case, the correction coefficient is provided as a virtual density to be set so that the product of the virtual density by a density provided as a correction coefficient determined with the result of measurement performed by the temperature [setting] measuring unit 20a will not exceed the maximum density of 100 %. Herein, when the detected voltage value is smaller than the minimum operating voltage value of 6.9 V, the correction coefficient assumes a value larger than the maximum density.